REMARKS

Prior to the present Reply, claims 5, 24-26, 28-31, 33, 36, and 40-45 were pending in the present application. No claims have been amended, added or canceled through this Reply. Accordingly, following the entry of this paper, claims 5, 24-26, 28-31, 33, 36, and 40-45 will be pending in the present application. Reconsideration of the present application is respectfully requested in view of the following remarks.

Rejections under 35 USC § 102(e)

The Examiner has rejected claims 5, 24-25, 33 and 36 under 35 USC § 102(e) as anticipated by U.S. Patent No. 6,341,140 to Lee et al. (hereinafter referred to as "Lee"). The rejections are respectfully traversed.

Claim 5

Independent claim 5 is directed to a parameter estimator comprising: (a) correlation logic for determining, using a dynamically variable integration time, a correlation function representing the correlation between a signal and one or more shifted versions of an identification code; and (b) analysis logic for analyzing the correlation function and estimating, responsive thereto, one or more parameter(s) relating to the signal, wherein the parameter estimator is configured to determine an integration time from an analysis of a correlation function derived from the signal using a default integration time. It is submitted that Lee does not teach each element of this claim.

Lee is directed to code synchronization in a direct sequence spread spectrum communications system, as noted at col. 1, lines 8-10, and at no point describes analyzing a correlation function as claimed. The code synchronization of Lee, as described at col. 2 lines 13-15, is the synchronization of the PN code in a received signal with a reference PN code locally generated in the receiver in a multi-carrier spread spectrum system, and when the code is synchronized, the analysis of Lee is complete. The synchronization of codes is accomplished in such a system by a phase adjustment of various carrier signals. As described at col. 3 lines 56-60, Lee teaches that a "test processor 26 receives symbols to be combined from the system controller 27. Then, it determines the phase of the PN code to be inputted to each of the non-

coherent correlators 24-1 to 24-*m* from this information and then transmits it to the PN code generating apparatus 25." In this manner, the codes of the PN code generator 25 and the received signals may be synchronized. When performing code synchronization, as described at col. 4 lines 7-35, the system controller determines an integral period of an integral and dump apparatus (reference numeral 35 of Fig. 3). The integral period is determined "in inverse proportion to the number of symbol [sic] to be combined" as noted at col. 4, lines 10-11. Importantly, Lee is devoid of any teaching of "analysis logic for analyzing the correlation function and estimating, responsive thereto, one or more parameter(s) relating to the signal, wherein the parameter estimator is configured to *determine an integration time from an analysis of a correlation function derived from the signal using a default integration time*," (emphasis added) as required by claim 5.

The Examiner asserts that Lee teaches that a symbol combination and code sync test processor, along with a control processor (26, 27), analyze the correlation function and estimate one or more parameters relating to the signal. The Examiner further cites to col. 5, lines 1-8, as teaching determination of an integration time from an analysis of a correlation function derived from the signal using a default integration time. However, col. 5, lines 1-8, of Lee describes that the system controller (27) provides an integral period. While the system controller may provide an integration period, Lee contains no disclosure of a determination of an integration time from an analysis of a correlation function derived from the signal using a default integration time. In fact, to the contrary, the only discussion of determination of integral periods in Lee is at column 4, lines 7-11, and 26-35, where Lee discloses that the integral period is in inverse proportion to the symbols to be combined, and that a user manually provides channel information to the controller (27). Thus, the integral period referred to in Lee is determined based on the number of symbols to be combined and a user input, and is *not* based on analysis by analysis logic of a correlation function derived from the signal using a default integration time, as required by claim 5.

Thus, it is submitted that independent claim 5 is allowable for at least the reason that the cited reference fails to describe analysis logic, as claimed. Applicants respectfully request that the rejection of claim 5 be reconsidered and withdrawn.

Claim 24

Independent claim 24 is directed to a method of estimating one or more parameter(s) of a signal using a dynamically variable integration time. The claimed method comprises a combination of elements, comprising: "determining, using a first integration time, a first correlation function representing the correlation between a signal and one or more shifted versions of an identification code;" and "attempting to estimate, responsive to the first correlation function, one or more parameter(s) relating to the signal." Claim 24 goes on to require, if the attempt is unsuccessful: "determining, using a second integration time which may differ from the first integration time, a second correlation function representing the correlation between the signal and one or more shifted versions of the identification code; attempting to estimate, responsive to the second correlation function, the one or more parameter(s) relating to the signal; and iterating until the one or more parameter(s) are estimated, or it is determined that the one or more parameter(s) cannot be estimated from the signal." It is submitted that Lee does not teach each element of this claim.

As discussed above, Lee is directed to code synchronization in a direct sequence spread spectrum communications system. At no point does Lee describe the determining, attempting, and iterating steps as claimed. The Examiner asserts that Lee in Fig. 2 and at column 4, line 66 through column 5, line 21 discloses such a method. However, these noted portions of Lee simply describe an integral and dump apparatus that is used output an accumulated value until a new integral result is available. Lee is devoid of any discussion for determining a correlation function and attempting to estimate one or more parameters responsive to the correlation function. Furthermore, Lee contains no discussion of determining a second integration time of an attempt to estimate a parameter is not successful. Claim 24, as discussed, requires attempting to estimate signal parameter(s) responsive to a correlation function, and determining a second correlation function using a second integration time if the attempt is unsuccessful. Lee thus cannot anticipate claim 24 because Lee does not teach every element of the claimed method.

Thus, it is submitted that independent claim 24 is allowable for at least the reason that the cited reference fails to describe determining, attempting, and iterating steps as claimed. Applicants therefore respectfully request that the rejection of claim 24 be reconsidered and withdrawn.

Claims 25, 33, and 36

Independent claim 25 is directed to a method of estimating one or more parameter(s) relating to signal using a dynamically variable integration time. The claimed method comprises a combination of elements, comprising: "determining, using a first integration time, a first correlation function representing the correlation between a signal and an identification code; determining, responsive to the first correlation function, a second integration time which may differ from the first integration time; determining, using the second integration time, a second correlation function representing the correlation between the signal and the identification code; and attempting to estimate, responsive to the second correlation function, one or more parameter(s) relating to the signal." It is submitted that Lee does not teach each element of this claim.

As discussed above, Lee is directed to code synchronization in a direct sequence spread spectrum communications system. At no point does Lee describe the determining and attempting, as claimed. The Examiner asserts that Lee in Fig. 2 discloses such a method when the figure is viewed at two different times. However, Fig. 2, and the associated description, simply describe a synchronization apparatus for synchronizing PN codes of multiple carriers. If the apparatus of Lee is observed at two different times, it would simply provide two views of code synchronization based on the signal that is present at each of the times. To the contrary, claim 25 requires that a first correlation function representing the correlation between a signal and an identification code be determined, and a second integration time determined based on the first correlation function. Lee is devoid of any disclosure for determining a second integration time based on a first correlation function. Furthermore, claim 25 also requires that a second correlation function be determined that represents the correlation between the signal and the identification code, and attempting to estimate parameter(s) relating to the signal responsive to the second correlation function. The system disclosed by Lee in Fig. 2 does not teach attempting to estimate parameter(s) responsive to a second correlation function. In fact, Lee contains no discussion of determining a second integration time at all, nor that the second integration time be used in determining a second correlation function for a signal. Lee thus cannot anticipate claim 25 because Lee does not teach every element of the claimed method.

Thus, it is submitted that independent claim 25 is allowable for at least the reason that the cited reference fails to describe determining and attempting, as claimed. Claim 33 depends from independent claim 25, and is similarly allowable at least because this claim contains the elements of claim 25. Furthermore, Lee, similarly as discussed above with respect to claim 24, is devoid of any discussion related to iterating the determining and attempting, as claimed. Applicants therefore respectfully request that the rejection of claims 25 and 33 be reconsidered and withdrawn.

Independent claim 36 contains recitations similar to claim 25 and, at least by virtue of this similarity, it is submitted that claim 36 is not anticipated by Lee. Therefore, Applicants respectfully request that the rejections of claim 36 be reconsidered and withdrawn.

Rejections under 35 USC § 103

Claims 26, 28, 29, and 40-45 stand rejected under 35 USC § 103 as unpatentable over Lee in view of U.S. Patent No. 6,477,162 to Bayley et al. ("Bayley"). The rejections are respectfully traversed.

Claims 26, 28, and 29 depend (directly or indirectly) from independent claim 25. Claim 25 is allowable because the cited reference, Lee, fails to teach all of the claim elements as set forth above. Bayley is directed to determination of integration intervals based on signal strength, and does not describe, teach or suggest determining or attempting as claimed. In fact, no correlation function is ever analyzed by Bayley, and no signal parameters are estimated from such a function. Thus, neither Lee nor Bayley, alone or in combination, teach or suggest an estimator as claimed. Therefore, it is submitted that dependent claims 26, 28, and 29, which depend directly or indirectly from claim 25, are allowable for at least the same reasons as discussed with respect to claim 25. Claims 26, 28, and 29 may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Applicants respectfully request that the rejections of claims 26, 28, and 29 be reconsidered and withdrawn.

Regarding independent claims 40-45, these claims contain elements similar to elements described above, and are similarly allowable because Lee and Bayley fail to teach or suggest the claim elements, again, for the reasons set forth above. Applicants respectfully request that the rejections of claims 40-45 be reconsidered and withdrawn.

Claims 30-31 stand rejected under 35 USC § 103 as unpatentable over Lee in view of Bayley, and further in view of U.S. Patent Application Publication 2002/0115448 A1 to Amerga et al. ("Amerga"). Claims 30-31 depend (directly or indirectly) from claim 25. As discussed above, claim 25 is allowable because neither of the cited references, Lee nor Bayley, alone or in combination, teach all of the claim elements as set forth above. Furthermore, Amerga does not describe the elements lacking in Lee and Bayley. Therefore, it is submitted that dependent claims 30-31, which depend directly or indirectly from claim 25, are allowable for at least the same reasons as claim 25. Claims 30-31 may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Applicants respectfully request that the rejections of claims 30-31 be reconsidered and withdrawn.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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